

Block 4 breakout
Implementation of Land Use, Carbon
Packaged data sets

Context

- Case 2: pre-selected, integrated package addressing the science driver: what is effect of land use change on carbon stocks?
- Didn't focus heavily on technical solutions to clearly identify science needs (to be addressed by DAACs).

Scope

- Focus on landscape to biome scale: US, AK
 - tractable for quick development, better data availability
 - Temporal extent “MODIS era” (2000-present)
 - Temporal/spatial granularity depends on data set
- Notional requirements for integrated package:
 - GeoTIFF + NetCDF
 - Common geographic reference: Geographic &/or Albers
 - Contextual documentation (readme -> provenance, includes relevant uncertainties & QA/QC)

Data inventory for package

- Tier 1 – readily available for DAACs, host institutions or ESDIS partners
- Tier 2 – as above but requiring additional preparation (documentation, etc.)
- Tier 3 – extensive preparation, or dependency on external organizations

Tier 1 – near-term (low effort)

- Vegetation & veg dynamics
 - MODIS NDVI/EVI (LP)
 - MODIS LAI/fPaR (LP)
 - MODIS Fire (LP)
 - Above ground biomass USFS gridded FIA (ORNL)
- Land Cover
 - NLCD (USGS/EROS)
- Climate
 - NCEP NARRS (NOAA)

Tier 1 (con't)

- Validation (ORNL)
- Landsat, ASTER L1 (LP)
- Other variables
 - Topography (ASTER GDEM, NED/NHD)
 - ½ degree WYSE (ORNL)
 - Snow/ice (NSIDC)
 - Population variables (SEDAC)
 - Map base info (various)

Tier 2 – mid-term (moderate effort)

- Vegetation & veg dynamics
 - N. America Forest Dynamics Maps (U.MD)
 - NLCD Land Cover Change (USGS/EROS)
- Land Cover
 - AVHRR Land Cover (GLCF)
- Climate
 - Daymet enhancements (ORNL)
- Other physical variables
 - Derived Landsat Fundamental Variables)
 - Map base (requiring more effort)

Tier 3 – long term (high effort)

- Vegetation & veg dynamics
 - GLAS Canopy Height GLF14 (Lefsky, ORNL?)
 - Various LIDAR data sets (LVIS, etc.)
- Other physical variables
 - Derived Landsat ECVs (USGS/EROS)
 - soils (NRC SSURGO)

Discussion

- To be “useful”, will have to pull from outside of ORNL & LP (& home institutions).
- “Thematic guide”- white papers as mechanisms to refine requirements (per DAAC)
- Target FY12 NASA work plan